



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

THE EFFECTS OF VARYING THE RATE OF THE TAX ON SPIRITS

BY K. M. WILLIAMSON, *Wesleyan University*

The history of the spirits tax in the United States shows the tax to have been one of extremely varying rate. Fluctuating from 20 cents to \$2 per gallon in the Civil War,* the tax was finally reduced to 50 cents in 1868.† In 1872 it was raised to 70 cents,‡ in 1875 to 90,§ and in 1894 to \$1.10.|| It remained at this figure until the recent war when, in 1917, it became \$2.10 for non-beverage spirits and \$3.20 for the beverage article,¶ and in 1919, rose to the unprecedented figure of \$6.40 for drinkable spirits and \$2.20 for spirits used for other purposes.** The rates appear to have been the result of legislative caprice, and surely were not arrived at through any scientific study of the problem. It is interesting, therefore, to see if Congress and the officials did hit upon the most satisfactory rates; and, in particular, whether the rates adopted were designed to yield the largest public revenue.

In analyzing the effects of the rates of the spirits tax, history is helpful; but too much emphasis should not be given to the results of the Civil War rates. The experience of any one period is not sufficient to determine what may be the maximum revenue point in the taxation of a commodity. David A. Wells, who wrote much in his day about the taxation of spirits, was, in the opinion of the writer, guilty of this error. In 1893, in a letter to Secretary Carlisle who had asked him whether it was his opinion that the 90-cent rate should be raised, Wells wrote that there should be no change in the tax, citing in support of his position (among other facts) the results of the Civil War.†† He asserted that it was shown in the sixties that the spirits tax should not be made too high, pointing out that the revenue increased greatly after the reduction of the rate in 1868 to 50 cents. But reasoning on the basis of the past does not settle the question of what the rate should be for the future, nor can the results of the Civil War tell us whether

* Act of July 1, 1862, 12 U. S. Stat. at Large, p. 447—20 cents; Act of March 7, 1864, 13 U. S. Stat. at Large, p. 14—60 cents; Act of June 30, 1864, 13 U. S. Stat. at Large, p. 243—\$1.50 for the period up to February 1, 1865; after that date, \$2; Act of December 22, 1864, 13 U. S. Stat. at Large, p. 420, by which the date on which the \$2 rate was to go into effect was changed to January 1, 1865.

† Act of July 20, 1863, 15 U. S. Stat. at Large, p. 125.

‡ Act of June 6, 1872, 17 U. S. Stat. at Large, p. 238.

§ Act of March 3, 1875, 18 U. S. Stat. at Large, p. 339.

|| Act of August 28, 1894, 28 U. S. Stat. at Large, p. 563.

¶ Act of October 3, 1917, 40 U. S. Stat. at Large, p. 309.

** Act of February 24, 1919, 40 U. S. Stat. at Large, p. 1105.

†† Finance Report for 1893, pp. 1104—1109. Letter of D. A. Wells to Secretary Carlisle dated July 8, 1893.

the later rates were as high as they should have been. What was an inexpedient tax at one period might have been satisfactory at another. Conditions in 1893 were very different from those in the Civil War. The administrative machinery of the internal revenue department was much more efficient, the standard of public service was higher, the public demanded better performance on the part of officials, conditions of production had changed, and it was easier to collect the tax from large-scale producers than from small distillers.* One must look, then, to facts other than the experience of the Civil War in order to decide whether the tax on spirits was as high as it could have been profitably.

One cannot decide on the rate of tax that will yield the maximum revenue in the case of any commodity without examining the effect of its taxation upon its consumption. If by raising prices taxes reduce consumption, it is important to fix the rates low enough not to curtail revenue but not so low as to lose receipts. In the case of commodities possessing an elastic demand, there is a maximum revenue point which ought to be discovered by the government. Unfortunately, the relation of the taxation of spirits and their consumption has been little studied in this country, and on this point it will be very difficult to reach any conclusion. During the Civil War David A. Wells published his results of a study of spirits consumption in the *Report of the Special Revenue Commission*, of which Commission he was chairman.† He later brought this study up to 1879.‡ His general conclusion seems to be that taxation seems to have very little permanent effect upon consumption although there may be some temporary reduction. There is warrant, therefore, for examining the statistics of consumption in the light of the whole experience.

In Table I is given the total and per capita consumption of spirits in the United States for various years. These figures are taken from the *Statistical Abstract of the United States*, but they must be used with great caution. The annual consumption by the population is arrived at by adding to the quantity of home spirits withdrawn for use the amount of foreign imported goods less the exports of the domestic product. The per capita figure is then obtained by dividing this total by the estimated population for that year. However, the apparent consumption indicated by the net quantity imported plus the quantity withdrawn at home may not equal the quantity actually used in the

* Howe, F. C.: *Taxation and Taxes in the United States under the Internal Revenue System*, p. 230. The author points out that Wells was not warranted in condemning a higher tax in later years because one so high was not successful under earlier conditions.

† Special Report No. 5 of the Revenue Commission, p. 187.

‡ Cf. his article in the *Princeton Review*, July, 1884, pp. 87-104, and reprinted in his *Practical Economics*, pp. 180-193. It would be an interesting contribution to economic literature if a special study were made of the relation of the taxation of alcoholic drinks to their consumption.

TABLE I
CONSUMPTION OF DISTILLED SPIRITS* IN THE UNITED STATES, 1863-1918.

Year	Total consumption	Per capita	Year	Total consumption	Per capita
1863	17,409,596	.52	1891	91,157,565	1.43
1864	37,002,067	2.55	1892	97,301,840	1.49
1865	17,484,302	.50	1893	101,287,753	1.52
1866	15,577,386	.44	1894	90,541,209	1.34
1867	15,885,460	.44	1895	78,655,063	1.14
1868	8,453,485	.23	1896	70,725,745	1.01
1869	63,443,582	1.68	1897	73,029,948	1.02
1870	79,895,708	2.07	1898	81,594,293	1.12
1871	64,059,661	1.62	1899	87,433,442	1.18
1872	68,422,280	1.68	1900	97,356,864	1.28
1873	68,037,139	1.63	1901	103,455,338	1.31
1874	64,540,090	1.51	1902	107,726,141	1.34
1875	66,120,558	1.50	1903	117,669,954	1.43
1876	59,983,890	1.33	1904	121,087,387	1.45
1877	59,420,118	1.28	1905	120,869,649	1.42
1878	51,931,941	1.09	1906	127,851,583	1.47
1879	54,278,475	1.11	1907	140,084,436	1.58
1880	63,526,694	1.27	1908	125,379,314	1.39
1881	70,607,081	1.38	1909	121,130,036	1.32
1882	73,556,976	1.40	1910	133,138,684	1.42
1883	78,452,687	1.46	1911	138,585,989	1.46
1884	81,128,581	1.48	1912	139,496,331	1.44
1885	71,416,709	1.27	1913	147,745,628	1.50
1886	73,229,114	1.28	1914	143,447,227	1.43
1887	71,072,794	1.21	1915	127,159,098	1.25
1888	75,845,352	1.26	1916	139,973,684	1.35
1889	80,613,158	1.32	1917	167,740,325	1.60
1890	87,829,623	1.40	1918	119,926,258	1.12

United States. There are three possible reasons for this. First, in those years which preceded or were marked by an increase in the rate, large quantities of spirits were manufactured and withdrawn to escape the payment of the larger tax and sold at the advanced price, with the result that the number of gallons of spirits paying tax were in excess of the amount used in those years. Moreover, when such large quantities of spirits were taken out in periods immediately preceding an alteration in the tax, smaller amounts than usual were withdrawn in years subsequent to the change. The consumption figures based on withdrawals for such years before and after a change in the tax do not show the actual quantity of spirits used. For this reason one must discard entirely or use with great caution the data for years immediately affected by rate changes.

The second explanation of the possible disparity between the annual withdrawals and the actual consumption lies in the peculiar administrative provision of the law which required that within a definite number of years after spirits were admitted to a bonded warehouse they should be withdrawn.† This requirement frequently necessitated the

* *Statistical Abstract of the United States for 1918*, p. 825.

† Before 1868 the tax was paid on spirits as it went into consumption without any limitation on the time within which the tax should be paid. By the Act of 1868 the time during which spirits could go without payment of the tax by storage in bonded warehouses was limited to one year (Act of July 20, 1868, 15 U. S. Stat. at Large, p. 136). In 1878 the bonded period was extended to three years (1 U. S.

withdrawal of goods when they were not demanded or needed,* with the result that a certain portion of the spirits annually withdrawn might not have been actually consumed in the year in which it was taken out. There is, unfortunately, no way of telling how much deduction should be made from the annual consumption figures to eradicate this error. But inasmuch as this error may be common to figures for all the years, the value of the per capita data for comparative purposes is not destroyed. A third reason for a possible difference between the actual and apparent consumption of spirits is that the official calculations of the quantity used do not take any account of whisky illicitly manufactured and consumed. But it is probable that the latter does not form a large portion of the liquor used. For these reasons one must be on guard in using the available consumption figures, although the errors which they involve do not vitiate them too much to serve our purpose.

What, then, do these figures show to be the effect of the taxation of spirits upon its consumption? The first significant change in consumption came in 1869 following the reduction in the tax from \$2 to 50 cents. In this year, the consumption increased to 1.68 gallons per capita from .23 in the previous year. But this apparent increase cannot be wholly attributed to the change in the rate, for it doubtless was partly due to the more effective system of administration provided by the new law. At any rate the consumption was not appreciably lessened by the increase in the tax to 70 cents in 1872, especially in view of the fact that consumption after a change may be less than normal merely because of the larger withdrawal preceding the change. The increase in the rate to 90 cents in 1875 reduced consumption for a time, but within seven or eight years the per capita quantity of spirits used had again risen almost to its former level, the average amount during the eighties being 1.33 and during the nineties 1.27 as compared with 1.51 in 1874, the year before the change in the rate. The advance in the tax apparently did not effect any great permanent reduction in consumption.

Stat. at Large, p. 249). Finally, in 1894, the period of storage, tax-free, was lengthened to eight years (Act of August 27, 1894, 28 U. S. Stat. at Large, p. 563). Spirits were thus for a long time treated differently from tobacco and beer for which no limited bonded period was fixed. These commodities were allowed to remain in bonded warehouse for an indefinite period, being withdrawn at the will of the owner on payment of the tax.

* At times large quantities of spirits were exported from the United States tax-free and, stored abroad, were later brought back for sale when demand increased, thus delaying the payment of the tax until actual sale of the goods. The tax was paid when the goods returned to the United States. In this way, the manufacturers of spirits were saved the interest on the taxes which would otherwise have been paid before the goods were sold because of the expiration of the bonded period. Cf the *Report of the Industrial Commission*, vol. I, pt. I, p. 93; also *House Report, No. 4165, Fiftieth Congress, Second Session*, p. 9 (The Whisky Trust Hearing). Reference is made also to the unpublished thesis of the writer on "Taxation of Distilled Spirits in the United States," now in the Widener Library, Harvard University.

In 1894 the tax was raised to \$1.10 and for some time afterwards the consumption fell off, reaching in 1896 the lowest point since the days of the Civil War frauds,* but in the next decade the quantity of spirits consumed per head again mounted to figures as high as those for some years under the 90 cent tax.† In fact, consumption throughout the two decades after 1900 was almost uniformly large, notwithstanding the fact that the tax rate was the highest it had been since the Civil War.‡ It should be remembered also that the figures after 1906 were reduced by the prohibition movement which set in about that time and steadily grew in strength. This is another reason why the per capita figures for the years since 1906 do not accurately show the effect of taxation. Doubtless under the same taxes, without prohibition, per capita consumption would have been larger.

It is also worth considering whether the relatively light taxation of beer that could be used as a substitute for spirits did not result in a smaller consumption of the latter than might have been the case if a higher tax had been paid throughout this period on fermented liquors. At any rate, Table II shows that from 1863 to 1918 the consumption of beer experienced a tremendous increase, rising from less than 2 gallons per capita to more than 20. Undoubtedly the consumption of spirits would have been greater if that of beer had been less, and this fact raises the question as to whether a higher tax on the latter would not have increased the consumption of the former, and at the same time expanded the receipts from both.

The effect of taxation upon the consumption of spirits has been a debatable question in other countries. The matter was considered in the *Report of the Board of Trade of the United Kingdom* in 1897, but no very definite conclusion was reached. The Board found it difficult to believe that taxation had absolutely no permanent effect on consumption and stated that under increased taxation the amount consumed

* It is probable that the general depression of the nineties in some part accounts for the decrease in consumption.

† This increase perhaps was due to some extent to the increasing prosperity.

‡ The consumption figures since 1907 do not include denatured alcohol consumed in arts and manufactures and are, therefore, smaller than they might have been. Spirits so used were counted in the quantity consumed before 1907. The quantities of denatured alcohol consumed annually since 1907 are as follows:

1907	3,084,951	1913	16,953,553
1908	5,640,331	1914	17,811,078
1909	7,967,736	1915	25,411,719
1910	10,605,871	1916	84,532,253
1911	11,682,888	1917	93,762,423
1912	13,955,904	1918	90,644,723

The tax undoubtedly retarded the use of spirits in industry, but it could be so used only if tax-free, and this fact does not, therefore, affect the revenue problem.

TABLE II

CONSUMPTION OF BEER IN THE UNITED STATES, 1863-1918. (UNIT=1 GALLON)

Year	Total consumption	Per capita	Year	Total consumption	Per capita
1863	62,372,465	1.87	1891	947,230,519	14.84
1864	97,770,584	2.87	1892	989,309,832	15.24
1865	113,623,255	3.27	1893	1,074,441,071	16.19
1866	159,153,746	4.49	1894	1,036,023,535	15.32
1867	193,060,149	5.33	1895	1,043,033,486	15.13
1868	191,289,305	5.17	1896	1,113,465,966	15.85
1869	197,483,238	5.23	1897	1,069,640,208	14.94
1870	204,756,156	5.31	1898	1,164,500,101	15.96
1871	241,138,127	6.10	1899	1,136,380,908	15.30
1872	270,298,916	6.66	1900	1,222,387,104	16.09
1873	300,697,262	7.21	1901	1,259,060,444	15.98
1874	299,521,065	7.00	1902	1,382,369,176	17.18
1875	294,953,157	6.71	1903	1,450,308,350	17.67
1876	308,336,387	6.83	1904	1,499,378,215	17.91
1877	304,926,667	6.58	1905	1,538,526,610	18.02
1878	317,969,352	6.68	1906	1,700,421,221	19.54
1879	344,605,485	7.05	1907	1,822,313,525	20.56
1880	414,220,165	8.26	1908	1,828,732,448	20.26
1881	444,112,169	8.65	1909	1,752,634,426	19.07
1882	526,379,980	10.03	1910	1,851,666,658	20.09
1883	551,497,340	10.27	1911	1,966,911,754	20.66
1884	590,016,517	10.74	1912	1,932,531,184	19.96
1885	596,102,038	10.62	1913	2,030,347,372	20.62
1886	643,179,459	11.21	1914	2,056,407,108	20.54
1887	717,972,313	12.24	1915	1,855,524,284	18.24
1888	766,491,812	12.78	1916	1,818,275,042	17.59
1889	780,122,461	12.73	1917	1,885,071,304	17.95
1890	855,929,559	13.67	1918	1,556,378,953	14.59

would be less for a time in any case.* Mr. Bence-Jones, who did the statistical work underlying this report, read a paper before the Royal Statistical Society in 1900 in which he stated that apparently it was the experience of certain countries that in times of prosperity more alcoholic drinks were consumed than in periods of depression.† He did not, however, touch the question of the effect of taxation on consumption. Professor Edgeworth in discussing this paper raised the question whether the alleged connection between large consumption and prosperity did not point to the fact that the demand for alcoholic beverages was elastic, and whether, if that were true, taxation would not affect consumption.‡ Shadwell in a careful study of consumption of spiritous liquors in the United Kingdom reaches the conclusion that by taxation it is possible to exercise considerable control over consumption as long as the rate is not made high enough to force illicit traffic.§

* Cf. *Statement of the Board of Trade* showing the production and consumption of alcoholic beverages in the various countries of Europe and the United States. Parliamentary Papers, 1897, vol. 79, p. 5. This report stated that consumption seemed to vary with the condition of prosperity in a nation, increasing in "good" times, and decreasing in "bad."

† *Statistical Journal of Royal Statistical Society*, vol. 63 (June, 1900), pp. 272-288. Cf. also the *Report of the Board of Trade* cited above.

‡ *Statistical Journal*, vol. 63, p. 290.

§ Shadwell, *Drink, Temperance, and Legislation*, p. 152. The effect of taxation on consumption of alcoholic liquor in the United Kingdom had been studied in 1875 by the Rev. Dawson Burns who read a paper upon that subject before the Royal Statistical Society in that year. His conclusion was that

The question was studied in France in the eighteen-nineties by a Committee of the Chamber of Deputies charged with investigating a proposal to create a state monopoly of rectifying alcohol. The Committee examined various schemes for mitigating the alleged deleterious influence of the consumption of alcohol upon the welfare of the people. One of the proposals for meeting the condition was that the consumption of spirits should be curtailed by higher taxation. The Committee after examining the statistics of consumption declared that in the nineteenth century taxation had had no effect on the quantity of alcoholic drink used.* In 1830, when the tax was 55 francs per hectoliter, the consumption was 1.12 liters per capita, but in 1831 after the tax was decreased to 37.4 francs, the per capita consumption itself declined to 1.09 liters. Again, in 1855, the consumption per head stood at 2 liters, and although by the law of July 14, 1855, the tax was raised to 60 francs, the quantity used increased to 2.13 liters. The rate was moved up to 90 francs in 1860, but in that year the amount consumed was 2.27, although it was only 2.23 the year before. Although the tax rose again by the law of September 1, 1871, the per capita quantity used in 1872 was 2.09 liters as against 2.81 the year before. The law of December 30, 1873, increased the spirits tax to 156.25 francs and added some special taxes on liqueurs, absinthes, and the like, but in 1875 the per capita consumption had increased to 2.82 liters. It may be objected that the data for sample years which happen to come before and after a change in the rate give no indication of the permanent effect of alterations in the tax. But the statistics of consumption for every year from 1850 to 1895 were given by the Commission,† and from these data that body concludes that throughout that period the national taxes did not affect consumption and that the quantity of drink used did not vary with its price,‡ which would tend to show that the product in that country at least possessed an inelastic demand. This unqualified conclusion is perhaps unwarranted, for doubtless the changes in the tax had some effect on consumption, though it may not have been great.§

taxation of strong drink decreased its consumption, based upon the experience in the United Kingdom. His paper, however, was very severely criticized by others present who had given attention to the subject and believed that the facts did not warrant any such conclusion. Cf. *Journal of the Royal Statistical Society*, March, 1875, vol. 38. pp. 1-32.

* *Rapport Seance du 19 Janvier, 1897*. Chambre des Deputes. Appendix No. 2212, Documents Parlementaires, 1897, vol. I, p. 145.

† *Report of the Commission*, Documents Parlementaires, 1897, Part I, p. 145.

‡ *Ibid.*, p. 145. "Nous pouvons donc hardiment déclarer que ni l'augmentation des droits sur l'alcool ni un relevement du prix de cette denrée ne suffiraient pour en diminuer la consommation."

§ See above where the position of the Board of Trade on this point was referred to. In the report of the Board (1897) it was stated that it was difficult "altogether to subscribe to the opinion of the French Committee that no increase in the amount of such taxation will have the effect of permanently diminishing the consumption."

There were cited other examples also of the fact that increased taxes did not result in decreased consumption. In 1889, the city of Marseilles increased its octroi duties considerably on alcoholic liquors, but without any effect on their consumption. In fact an increase in revenue followed the change. At one time also in Belgium the spirits tax was raised tenfold, and yet an increase in consumption followed.*

However the matter may be with foreign countries, in America at least the history of spirits taxation shows that, although there was always a temporary reduction in consumption after an increase in the tax, no marked permanent decline in the use of spirits followed advances in the rate. The experience would seem to show that in the long run American spirits possess to some extent an inelastic demand, although there are temporary variations in demand. There was undoubtedly a point above which the government could not go in fixing the rate of the tax, but evidently that point had not been reached. On the basis of the data it would be hard to tell where this point was. Yet the observation is significant from the point of view of revenue because apparently considerably higher taxes might have been laid on spirits for a number of years during the existence of the tax without reducing the consumption so much as not to bring an increased revenue.† It may be said, however, that no such conclusion is warranted from a study of statistics of consumption which do not include the amount of illicit spirits consumed.‡

The objection may be raised that higher taxes would result in frauds and that even if consumption were not reduced, much of the spirits consumed under the higher rates would have been produced in illicit stills and used or sold without payment of the tax, with the result that the treasury might have got no more or even less revenue under the higher rates although as much liquor was consumed as before the increase in the tax. This leads to an examination of the effect of increased taxes on frauds and illicit distilling. The available statistics concerning illicit distilling consist of the number of officers and subordinate employees of the Internal Revenue Service killed and wounded, and the number of seizures of distilleries engaged in violation of the law. These figures do not measure the quantity of spirits unlawfully manufactured, but they are the only data that indicate the extent of the illicit operations. The statistics begin with the year 1877 at which time the Bureau of Internal Revenue began its intensive campaign against illicit distilling.§

* Report to Chamber of Deputies, p. 161.

† What this rate might have been will be indicated later in this article.

‡ Cf. *supra*, p. 454.

§ For a very readable and complete story of the activities of the commissioner and his subordinates in the suppression of these frauds, *cf. House Executive Document No. 62, Forty-sixth Congress, Second Session.*

TABLE III
REGISTERED STILLS SEIZED, 1877-1918*

1877.....	598	1898.....	2,391
1878.....	1,024	1899.....	2,190
1879.....	1,319	1900.....	1,955
1880.....	969	1901.....	1,499
1881.....	756	1902.....	1,282
1882.....	464	1903.....	1,323
1883.....	397	1904.....	964
1884.....	377	1905.....	1,053
1885.....	245	1906.....	1,376
1886.....	564	1907.....	1,139
1887.....	456	1908.....	1,130
1888.....	518	1909.....	1,743
1889.....	466	1910.....	1,911
1890.....	583	1911.....	2,471
1891.....	795	1912.....	2,466
1892.....	852	1913.....	2,375
1893.....	806	1914.....	2,677
1894.....	1,016	1915.....	3,832
1895.....	1,874	1916.....	3,286
1896.....	1,905	1917.....	2,232
1897.....	2,273	1918.....	†

There were three periods of special activity in illicit distilling followed by declines in illegal operations. Federal prohibition has brought the last period to an end without leaving much evidence on which a prophesy for the future could be made, although in the year 1917 there was a distinct falling off in the figures. The first period of prevalence of illicit operations followed hard upon the increase in the tax-rate in 1875. In Table III it is seen that the number of illicit distilleries seized rose from 598 in 1877 to 1,319 in 1879. Likewise, the greatest number of casualties came, as Table IV shows, in the early period from 1877 to 1881 when the Bureau first sent armed forces against the insurrectionary distillers. This increase in illicit operations can be traced to the change in the rate of the tax. No other explanation can be offered. The higher rate increased the price of spirits, with the result that the attention of distillers was directed to the profits of successful evasion of the tax which were sufficiently attractive to cause illicit distillers to be very numerous and very persistent.‡ Unfortunately there are no statistics to support it, but what evidence there is seems to show that after 1868 illicit distilling was no problem for the government until the tax was raised in 1872 and 1875.§ If, however, the increase in the taxrate caused such an increase in illicit distilling in the seventies, why should the business decline when the rate was still in force? For, by 1885, the number of illicit distilleries seized had fallen to 245, although there was a

* Figures taken from the *Annual Reports of the Commission of Internal Revenue*.† Not given in the *Report* for 1918.‡ *Finance Report for 1893*, p. 1108; cf. also Art. in *Sewanee Review* for November, 1893, by Elwood Wilson.§ This is the position of Elwood Wilson in the *Sewanee Review*, p. 123; cf. also D. A. Wells, *Practical Economics*, p. 220.

TABLE IV
CASUALTIES IN THE SUPPRESSION OF ILLICIT DISTILLING, 1877-1917*

Year	Officers or employees killed	Officers or employees wounded	Total casualties
1877.....	12	8	20
1878.....	8	17	25
1879.....	7	19	26
1880.....	3	7	10
1881.....	1	9	10
1882.....	4	1	5
1883.....	1	0	1
1884.....	0	1	1
1885.....	1	0	1
1886.....	0	1	1
1887.....	0	1	1
1888.....	1	1	2
1889.....	2	2	4
1890.....	1	1	2
1891.....	1	3	4
1892.....	0	1	1
1893.....	3	0	3
1894.....	0	0	0
1895.....	1	2	3
1896.....	0	3	3
1897.....	1	3	4
1898.....	2	5	7
1899.....	1	3	4
1900.....	0	0	0
1901.....	2	4	6
1902.....	1	2	3
1903.....	0	0	0
1904.....	0	1	1
1905.....	1	0	1
1906.....	0	0	0
1907.....	0	0	0
1908.....	0	0	0
1909.....	1	0	1
1910.....	1	3	4
1911.....	1	2	2
1912.....	0	1	1
1913.....	0	2	2
1914.....	0	1	1
1915.....	3	0	3
1916.....	3	3	3
1917.....	0	3	3
Total.....	60	110	170

slight increase after that, and by 1894 there were no casualties whatever reported for the year. This decline in illicit distilling may be attributed to two causes: the vigorous opposition of the government to this practice and the greater general efficiency of the internal revenue machinery attained through experience.

In 1895 after the \$1.10 tax had gone into effect there was the second increase in illicit distilling, and the seizures in that year amounted to more than a thousand and continued to increase until 1900, after which they began to decrease, falling in 1905 to 954, the lowest point reached since the early nineties. From 1902 to 1910 the total casualties also were very much reduced, three years of this period being characterized by an entire absence of any. Evidently the increase in the rate was the cause of the change in the amount of illicit distilling and for the

* Figures taken from the *Annual Reports of the Commissioner of Internal Revenue*.

same reason as under the last change of rate.* Thus, the statistics indicate† that, in the case of the \$1.10 rate just as in that of the 90-cent tax, the spurt in illicit distilling was followed by a decrease in that activity when the distillers had been fully impressed with the serious purpose of the government to enforce the law and collect the tax.

Then there followed an unusual thing in the experience with the spirits tax. Without any change whatever in the rate of the tax, another increase in illicit distilling was observed. In 1906 the seizures began to grow until in 1916 they had reached the unprecedented number of 3,832, and during this period the casualties were more numerous. This third period of illicit activity was due to the spread of prohibition‡ which began in the Southern Commonwealths in 1907. Prohibition created the same condition as an increase in the tax in that it made the profits of fraud so attractive as to tempt large numbers into illicit distilling.§ Under state-wide prohibition the supply of whisky was greatly reduced, so that large prices could be secured for that which was produced. Furthermore, the state-wide prohibition was adopted in those states where illicit distilling had formerly been carried on,|| which led to revival there. In recent years, the commissioners in their reports have referred to the difficulty of enforcing the law and collecting the tax in those areas where prohibition existed.¶ But prohibition and its effect upon the revenue are foreign to the subject of the present writing. They are mentioned here only in so far as they might have some bearing upon the fixing of the rate.

The conclusion seems to be clear, therefore, that although there was an increase in the amount of illicit distilling following each change in the rate, after a few years the activities of the illegal producers, by the force of the internal revenue service, were very much reduced. The increases in illicit distilling seem to have been due more to disturbance of the tax than to the particular rate which prevailed. When the rate was changed, the added profits of dishonest manufacture were suf-

* D. A. Wells felt that the frauds under the 90-cent rate were due to the rate, and advised at least against any raise in the tax. Cf. his letter to Secretary Carlisle in 1893, *Finance Report for 1893*, p. 1108. Elwood Wilson believed that the advance in the rate to 90 cents increased fraud and recommended a 50-cent tax instead of an advance beyond 90 cents. Cf. his article in *Sewanee Review* for November, 1893, p. 120. He attributes the sudden rise in illicit distilling after 1875 to the 90-cent rate. The Acting Commissioner of Internal Revenue, Mr. G. W. Wilson, also seemed, in 1897, to attribute the increase in illicit distilling after 1894 to the increase in the tax and he recommended that the rate be decreased from \$1.10 to 90 cents, or even to 70 cents. Cf. his letter to the Secretary of the Treasury, April 3, 1897, *Senate Report, No. 411, Fifty-fifth Congress, Second Session*, pp. 555-556.

† These reductions in illicit distilling are also referred to from time to time in the Reports of the Commissioner of Internal Revenue.

‡ *Report of the Commissioner of Internal Revenue for 1910*, p. 77.

§ *Ibid.*, 1912, p. 25; cf. also Horace Kephart, *Our Southern Highlanders*, p. 189, where he refers to the profits made by boot-leggers in these districts.

|| For statistics showing concentration of illicit distilling, see the various reports of the commissioner.

¶ Cf., for instance, *Reports* for the years 1913, 1914, and 1915.

ficient inducement to bring into the field a large number of distillers, but when the power of the government was brought down on them the operations were curtailed and the number of casualties and seizures became more normal. The prevalence of the illicit operations depended also upon the methods and the efficiency of the administration of the law. More casualties and greater difficulty were met with under the 90-cent tax than under the \$1.10 rate. There is no reason to believe that the \$1.10 rate would not have been successful. So far as illicit distilling was concerned the statistics show that higher taxes do not in themselves permanently cause more violations of the law. Within certain limits it would seem that high taxes would result in no more difficulty than low, provided that the people became accustomed to them and that violations of the law were vigorously suppressed. It seems that with illicit traffic in spirits, it was more a question of law and efficiency of administration which developed slowly than with the particular rate of the tax. Moreover, it should be remembered in this connection that illicit production was largely confined to the remote mountain regions of the South, that the scale of operation was always limited, and that the total output of illegal stills, being inferior in quality and forming a comparatively small part of the country's product, could not offer very effective competition with tax-paid spirits.*

That the revenue was not permanently reduced by increases in tax rates is shown by Table V, which gives the receipts from the spirits tax. Only the data since 1868 are included because the period of the Civil War was too greatly characterized by changing policy and fraud. The figures for the years from 1872 to 1875 are affected by changes too close together to be instructive. But after 1875, when the rate was advanced to 90 cents, although the quantity of spirits withdrawn was temporarily reduced, the annual revenue obtained from the larger tax was increased. By 1880, however, the quantity of spirits withdrawn was as large as before the change in the tax, with a consequent rise in the revenue.† Again in 1893, after the tax was changed to \$1.10, the number of gallons paying tax fell off for a few years, but by the close of the century the quantity paying tax had returned to normal, and the revenue before that had risen to its former level. Here again the increased tax, in a few years, brought in larger annual receipts than in the years before the change.

All this experience brings us to conclude that taxes even higher than

* F. C. Howe, *Taxation and Taxes in the United States*, p. 230, where he comments upon the unimportance of the illicit product in the total output of the country.

† Cf. the *Reports of the Commissioner of Internal Revenue* for various years for the number of gallons withdrawn.

the \$1.10 rate might have been successfully collected from spirits. No great permanent decrease in consumption or increase in illicit distilling would have been expected from the higher rate. Undoubtedly, illicit distillers would have been temporarily active under an increased rate and the consumers would have for a time at least reduced their use of

TABLE V
FEDERAL RECEIPTS FROM SPIRITS IN THE UNITED STATES, 1869-1918*
(IN MILLIONS OF DOLLARS)

Year	Receipts	Year	Receipts
1869.....	33.7	1894.....	79.9
1870.....	39.2	1895.....	74.8
1871.....	31.1	1896.....	75.3
1872.....	33.1	1897.....	77.0
1873.....	43.1	1898.....	87.7
1874.....	43.8	1899.....	93.6
1875.....	46.9	1900.....	104.4
1876.....	51.4	1901.....	110.9
1877.....	52.7	1902.....	115.3
1878.....	45.6	1903.....	125.9
1879.....	47.7	1904.....	129.6
1880.....	55.9	1905.....	129.5
1881.....	62.2	1906.....	137.0
1882.....	64.8	1907.....	149.7
1883.....	69.0	1908.....	133.6
1884.....	71.7	1909.....	128.3
1885.....	62.2	1910.....	141.5
1886.....	63.8	1911.....	148.1
1887.....	60.6	1912.....	149.4
1888.....	64.4	1913.....	157.5
1889.....	69.4	1914.....	153.0
1890.....	76.5	1915.....	136.6
1891.....	79.6	1916.....	149.8
1892.....	85.5	1918.....	181.1
1893.....	89.2	1917.....	303.

spirits, but the past leads us to think that these results would have been only ephemeral and that in a few years the receipts into the treasury would have indicated the restoration of normal conditions in consumption and illicit operations. Serious frauds and illicit practices were slowly suppressed as the years passed, and with vigorous law enforcement and the changed conditions America, like England, was capable in late years of collecting heavier taxes on spirits. It is of course difficult to say exactly how high the tax might have been made. There is undoubtedly a maximum revenue rate above which advances in the tax would not bring proportionate increases in revenue. Temporary and permanent prohibition have prevented us from seeing the results which would have followed from the \$2.20 and the \$6.40 taxes imposed in 1917 and 1919,† respectively. In view of the facts, the writer believes it reasonable to think that during the last twenty-five years at any rate, a tax of at least \$2 might have been wisely imposed

* From the *Reports of the Commissioner of Internal Revenue*.

† Acts of October 3, 1917, and February 24, 1919, cited above.

on strong drink.* Whatever the rate should have been, one thing seems clear and that is that for some time before the recent war emergency the federal government did not fully utilize spirits as a source of revenue.†

* In this connection *cf.* article by Professor Charles J. Bullock in the *Quarterly Journal of Economics* for May, 1917, p. 368, in which he expressed the belief concerning war finance that the tax "on spirits could probably be raised to \$1.50 per proof gallon without making it difficult to enforce, and if the Bureau of Internal Revenue so advises, should be increased to \$2.00 per gallon."

† It should be mentioned in this connection that in the eighteen-eighties an attempt was made entirely to abolish the revenue from spirits and all internal revenue. *Cf. Debates* in the Congressional Record for 1888, and the platform of the Republican party in that year. *Cf.* also an article by Judge Kelley in the *International Review* for October, 1882, p. 305.